

## ABSTRACT OF THE DISCLOSURE

An ant-based method for discovering a network path that satisfies a quality of service (QoS) requirement is disclosed. A “forward QoS ant,” which indicates a destination and a QoS requirement, is received at a particular router. The forward QoS ant is updated to indicate the particular router’s identity. Given a metric “X,” such as delay, jitter, etc., it is determined whether a least-“X” path from the particular router to the destination satisfies the QoS requirement, and whether the forward QoS ant has visited any other routers in the least-“X” path. If the least-“X” path satisfies the QoS requirement and the forward QoS ant has not visited any other router in the least-“X” path, then the forward QoS ant is sent to the next router in the least-“X” path. Later, a “backward QoS ant,” which indicates the path taken by the forward QoS ant, is received at the particular router.